A Work Project, presented as part of the requirements for the Award of a Master Degree in Economics / Finance / Management from the NOVA – School of Business and Economics.

AB INBEV EQUITY RESEARCH – THE SLEEPY CHAMPION

NAME: FRANCISCO GRADÍSSIMO TEIXEIRA DE BRITO & NUMBER: 26135

A Project carried out on the Master's in Finance Program, under the supervision of:

Professor Francisco Martins

04/01/2021

Abstract
This work project is part of a consolidated report named "AB InBev Equity Research". The aim of this work project is to do a valuation of the company AB InBev which is the biggest player in the beer market. With the increase of craft beer and premium brands in the company portfolio, synergized with the possible economies of scale in these segments we expect the company ROIC to increase. We also debate that the company beta is higher than what it should be comparing to its main competitor. All together we estimated a price above what it is now.

Keywords

AB InBev
Craft Beer
Margins
Beta

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

This report is part of the … report (annexed) and should be read has an integral part of it.

Table of Contents

EMEA 5
- *Market Overview* *5*
- *AB InBev* *6*

Asia Pacific 7
- *Market overview* *7*
- *AB InBev* *8*

Risks 8
- *COVID-19* *8*
- *Debt* *9*

VALUATION 10

APV & Capital Structure 10
- *Risk free* *10*
- *Market risk premium* *10*
- *Cost of debt* *11*
- *Company risk* *11*
- *Growth* *12*
- *ROIC* *12*
- *Enterprise value* *13*
- *Equity value* *13*
- *Scenario analysis* *13*
- *Comparables* *14*

Recommendation 15

EMEA

- Market Overview

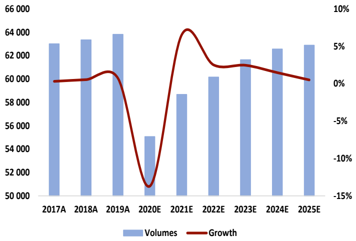

Figure 46 –Beer volumes in EMEA
source: Statista; own estimates

Market	Beer Volume
[2016A-2019A]	0,5%
[2020E-2025E]	2,7%
[2026E-2031E]	0,5%

Figure 47 – Beer market growth in EMEA
source: Statista, own estimates

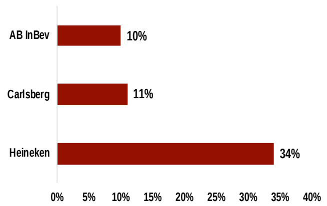

Figure 48 – Europe market share by volumes in 2019
source: Euromonitor

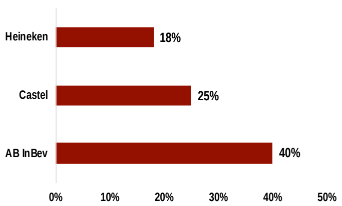

Figure 49 –Africa market share by volumes in 2019
source: Euromonitor

From Statista we can see that the total beer volume for EMEA, in 2019, was 63,8 billion litres of beer. The market size in value of 2019 was around $200 billion and we expect to see a market size of around $270 billion by the end of 2025, not only due to the increase in volume (in Africa due to the increase in the population above 15 years old) but also due to the increase of the premiumisation of the sector and craft beers, especially in Europe.

Regarding **Europe,** the overall volume of beer consumption has been decreasing and we do not expect it to go back to 2019 levels (49,2B litres). We believe that there will be a decrease in volume in the next years (48B litres by the end of 2025) due to a shift in consumer preferences towards spirits, healthier alternatives, and the increasing trend in craft beer. In accordance with our view, EFMP[1] states that "In recent years, this trend (healthy) has had the most significant impact on the alcohol industry. Not only has the pursuit of a healthy lifestyle resulted in a decline of alcohol…". AB InBev is in the no-alcohol and low-alcohol beer which is expected to have a CAGR of 7,5% until 2025. In the UK (biggest no-alcohol beer market) Heineken 0.0 is the top player and it is expected to continue in the following years. Budweiser is the second biggest player with half the sales which is still in a good position to capture the growth in this market.

Another trend in most mature beer markets is that consumers are decreasing their average consumption in volume but thy have increased their average spending on beer. "Premium and Super premium brands are driving growth as consumers are increasingly "drinking less but drinking better" and this trend is generally occurring in Europe"[2]. Market Data Forecast predicts that the global craft beer market size in 2025 will be $187B which will represent around 20% of the whole beer market in comparison to the 16% as of today. We agree with this view since we believe that this trend will remain in the future as customers keep wanting to try new flavoured beers that keep growing at a higher pace than the market. Another trend is the increase in the premium and super premium segment representing more than 50% of the overall market in Europe and the trend is expected to continue. Overall, the 3 main players are Heineken, Carlsberg, and AB InBev. Heineken has a market share of around 34%, Carlsberg 11% and AB InBev 10% Being Europe a mature market, we do not expect these shares to change dramatically.

In **Africa**, the beer market is the fastest-growing market in the world. In terms of value, it almost doubled from 2012 ($18B) to 2019 ($35B) and it is expected to be $71B in 2025 which means it is expected to double again in 5 years. This huge growth comes mainly from 2 factors which are, the increase in the target population (age above 15) due to the big natality rate African countries had in the last years and from the increase in disposable income which is strongly correlated with beer consumption especially in low-level income individuals[3]. We expect the premiumisation trend in this market to be almost irrelevant given the smaller percentage of people available to afford it. In Africa, the value-for-money segment is still king, and we also believe breweries will position themselves to capture the expected growth in the market mainly driven by the volume increase. Due to SAB Miller acquisition, AB InBev is the biggest player in the African market with a predicted market share of 40%, with a 20% stake in Castel which is the second biggest player with 25%

[1] EFMP, 2018," What is influencing alcohol trends in Europe?", EMFP, Accessed 5 November, https://www.efmp.com/articles/what-is-influencing-alcohol-trends-in-europe/
[2] DeGeorge, Patricia, 2020, Beer industry's evolution in the developed and emerging markets, Accessed 10 November
[3] DeGeorge, Patricia, 2020, Beer industry's evolution in the developed and emerging markets, Accessed 10 November

market share and finally Heineken comes third with 18%. There are some rumours about AB InBev acquiring Castel, but we do not believe it will happen at least any time soon. The financial situation the company is in would not allow for more acquisitions since they are more focused on going back to lower levels of debt in the next years. AB InBev experienced a big investment from Heineken to grow in the African beer market, which we consider that will keep on going, making AB InBev lose some market share as another big brand will have the ability to compete with AB InBev in this value-for-money market.

In the **Middle East**, AB InBev is only present in Israel and the United Arab Emirates. The information about these markets is scarce but we also believe the revenue coming from these two countries to be immaterial so we will not go deeper into the analysis. We expect AB InBev to only invest in these markets if some cultural factors change since the culture of these countries does not set them as strong potential growth markets. Since we do not expect it to happen, we will focus on Africa and Europe and consider that the Middle East will not change our analysis.

- AB InBev

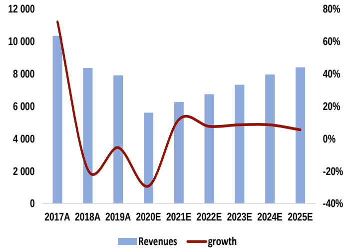

Figure 50 – AB InBev revenues in EMEA
Source: Company's report, own estimates

AB InBev	Revenues
[2016A-2019A]	9,6%
[2020E-2025E]	8,4%
[2026E-2031E]	2,0%

Figure 51 – AB InBev revenues growth in EMEA
source: own estimates

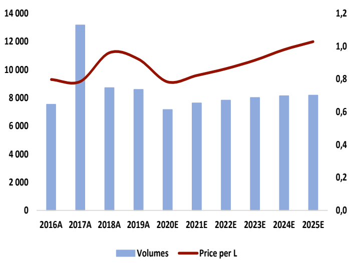

Figure 52 – AB InBev volumes and price per liter in EMEA
source: Company's Report; own estimates

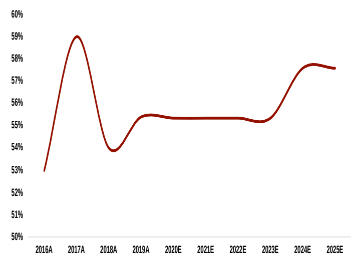

Figure 53 – Gross margin in EMEA.
Source: Company's report; own estimates

The company reported a revenue of $7,9 billion (15,1% of total revenue) and a $2,8 billion normalized EBITDA (13,2% of total EBITDA) in 2019. From the 2019 annual report, AB InBev volume sold 8,6 billion litres reaching a volume market share around 13,5%.

In **Europe**, AB InBev has a well-positioned portfolio to tackle the craft beer and premiumisation trend. Although data is hard to find, we believe AB InBev is the number one player in craft beer in the world. AB InBev has been acquiring craft breweries being the most relevant, in Europe, Bosteels Brewery (flagship brand Triple Karmeliet but also Kwak) and Ginette Brewery which not only goes in line with the craft trend but also the healthy trend because of the brand focus on the use of organic products. Also, with the successful launch of Budweiser, in France and in the Netherlands, Budweiser became the fastest growing brand in Europe. In the UK, Corona beer continues with a double-digit growth.

Regarding the profitability, this launch of Budweiser in Europe and the increased focus on the no-alcohol beer market, the company will need an increased investment in marketing and distribution channels which will decrease margins in the next years. Also, the changes in the channel mix, mainly due to COVID-19 (on-trade to off-trade), will slow down the increase in the price per L which will also affect the margins in the next 3 years. Afterwards, we believe in a margin increase because of the increased demand for the high-end products of the company which has higher margins than the value-for-money ones.

In **Africa**, we expect the company to lose some market share to Heineken, but the overall revenues will increase due to the fast-growing African beer market. We estimate AB InBev to still be number one in this market in the future given the big difference it has to the second biggest player (Castel).

Regarding profitability, AB InBev might need to invest in marketing to fix its brand and not lose more market share than what is expected to lose. This will harm the margin because of this investment in marketing but also due to the probability of price decrease due to an increase in competition.

All in all, in **EMEA**, we expect volumes to decrease in the next 5 years at -0,2% CAGR due to Covid-19 impacts and Europe healthier trends. This decrease was partly offset by the increase in volume in the African beer market. This reduction in beer volumes and loss of AB InBev market share mainly in the African market will lead to a smaller volume sold in EMEA which we expect to be 8,2B litres in 2025. Regarding the price per L, we expect it to increase by 1,6% CAGR from 2019 to 2025. This increase will more than offset the decrease in volumes making revenues increase up to $8,4B in 2025. Regarding profitability, we expect a decrease as percentage of revenues from COGS due to a shift towards premiumisation sector and craft beers in Europe. There will also be a decrease in the margins until 2023 due to COVID-19 effects that will make the company sell more to the off-trade segment which has lower margins than the on-trade. We expect AB InBev to increase its marketing efforts catch up with the growth of the high-end sector in Europe and to be able to keep a leading position in Africa now with Heineken investing more in this market. This will hurt the operation margin from 2020 to 2023 and after we forecast to come back to recent values as a percentage of sales making the operating margin higher than what it is right now (22,8% in 2019 to 26,1% in 2026 onwards).

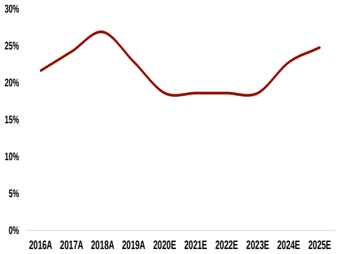

Figure 54 – Operating margin in EMEA.
Source: Company's report; own estimates

Asia Pacific

- Market overview

From Statista we can see that the total beer volume for Asia Pacific in 2019 was 66,8 billion litres. The market size in value of 2019 was around $190 billion and we believe that this segment is a great opportunity for the company to grow because it is still fragmented with no big leader in the market. China Resources Holdings has 17% of the market, AB InBev is the second with 14% and in third place comes Tsingtao with 11%. We expect to see a market size of around $230 billion by the end of 2025 not only by the increase in volume but mainly due to the increase of the premiumisation in the sector, especially in China.

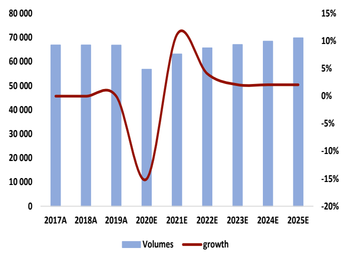

Figure 55 – Beer volumes in Asia Pacific
source: Statista; own estimates

China is the biggest beer market in the world with 42,6 billion litres in 2019 representing 22% of the world beer volume and 64% of the APAC region. China is undergoing a trend of premiumisation of the sector. Based on Nielsen data[4] "…we can see that with the rapid growth of disposable personal income, the rise of the taste have emerged rapidly in China. They prefer superior quality, premium products, and are increasingly willing to spend money on premium products.". Another factor to consider is the increase in urbanisation (movement of people away from the rural areas towards urban areas) in the country. Where in 2010 was around 45% and in 2030 is expected to be up to 60%[5] leading people into the more premium markets. We believe that this premiumisation of the market will keep on growing over the next 5 years.

Market	Beer Volume
[2016A-2019A]	0,0%
[2020E-2025E]	4,2%
[2026E-2031E]	1,1%

Figure 56 – Beer market growth in Asia Pacific
source: Statista, own estimates

Another important segment to mention is the craft beer which it is still a small percentage (around 1%) of the Chinese beer market. This could be a good opportunity for companies to explore since we expect to have the same growth that the US and Europe had roughly seven years ago (20% CAGR). AB InBev entered this market really early and it is now the biggest craft player in China with the brand Goose Island. They have found a loophole in legislation that can give them competitive advantage over local breweries since for these smaller breweries to be able to distribute their beer all over the country they must produce over 12 000 bottles an hour, otherwise they must sell it locally, but since AB InBev imports its craft beer this does not apply to the company. That way they can distribute the beer all over China with less competition. In the overall Chinese beer market, China resources holdings is still king with a 26% market share, followed by Tsingtao brewery at 17% and in the third place comes AB InBev with 16%.

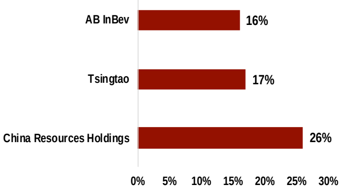

Figure 57 – China market share by volumes in 2019
source: Euromonitor

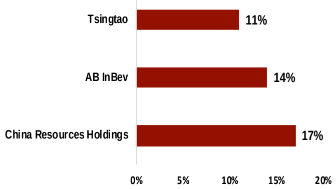

Figure 58 – Asia market share by volumes in 2019
source: Euromonitor

[4] Nielsen, 2019, "61% OF CHINESE CONSUMERS CHOOSE PREMIUM PRODUCTS BECAUSE OF SUPERIOR QUALITY", Nielsen, Accessed 10 November, https://www.nielsen.com/cn/en/insights/article/2019/61-percent-of-chinese-consumers-choose-premium-products-because-of-superior-quality/

[5] Seto, Karen, 2013, "What Should We Understand about Urbanization in China?", Yale insights, Accessed 10 November, https://insights.som.yale.edu/insights/what-should-we-understand-about-urbanization-in-china

Regarding the 3 other countries, there are some differences because in South Korea, the company strategy will be in line with China, although we estimate the increase in the premium and craft beer segments to be lower than in China because the premium sector is already big in Korea. Being India and Vietnam considered less developed than the other 2 the strategy will be different. Vietnam is the country in Asia that has the highest consumption per capita (48L compared to the 15L average in Asia) and it is expected to continue to grow both in terms of per capita and target population. Like in Vietnam, India beer market is expected to almost double in value by the end of 2025 both by the increase in volume but also by the increase in prices.

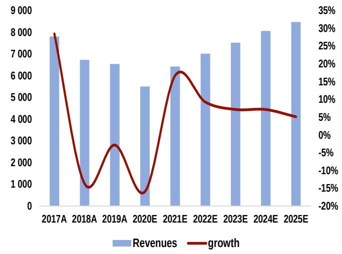

Figure 59 – AB InBev revenues in Asia Pacific.
Source: Company's report; own estimates

AB InBev	Revenues
[2016A-2019A]	2,5%
[2020E-2025E]	9,0%
[2026E-2031E]	2,6%

Figure 60 – AB InBev revenues growth in Asia Pacific
source: own estimates

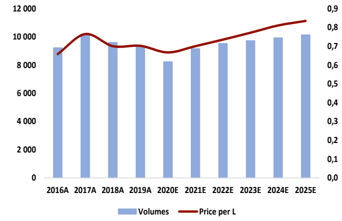

Figure 61 – AB InBev volumes and price per liter in Asia Pacific.
source: Company's Report; own estimates

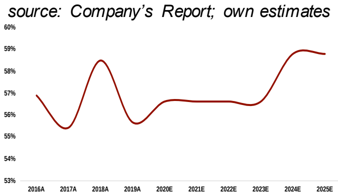

Figure 62 – Gross margin in Asia Pacific.
Source: Company's report; own estimates

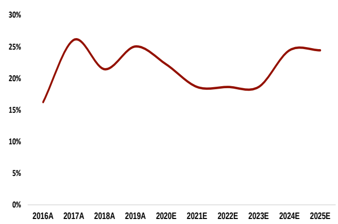

Figure 63 – Operating margin in Asia Pacific.
Source: Company's report; own estimates

- AB InBev

The company reported a revenue of $6,5 billion (12,5% of total revenue) and a $2,3 billion normalized EBITDA (10,9% of total EBITDA) in 2019. From the annual report, AB InBev volume was 9,3 billion litres making the company market share in volume around 14%.

In China, the company is well positioned to capture the growth in the premium and super premium market, and we believe in an increase in price per L of 2,4% annually from 2019 to 2025. In this market, AB InBev has Budweiser as number one in the premium sector and we estimate that Corona is the number one brand in the super premium segment. Besides Corona, the company has 2 other super premium brands that are also growing at mid-single digits which are Hoegaarden and Blue Girl. Being the latter the fastest-growing super premium brand. This trend will be in the country for more than 5 years since when compared to its neighbours Taiwan and Hong Kong, China's premium beer sector is still at a lower percentage compared to the total market which makes us believe there is room for growth. This trend will be partly offset by the change in the mix in the next 3 years because of COVID-19 (On-trade to Off-trade). All in all, we expect the company volume market share to remain constant (the big increase in volume in Vietnam and India will offset the slight decrease in China and South Korea).

Regarding profitability, the strategy is top line driven and the company will require some marketing expenses to get the increasing percentage of the premium and craft sector. We believe the focus will be during the next 3 years. Due to that, the operation margin of the sector will decrease in the next years but in the following years, the operation margin will increase (from 22,2% in 2020 to 24,4% from 2024 onwards) due to the marginal cost of doing premium and super premium beer being lower than the increase in marginal revenue.

Risks

In our valuation we make estimations for the company's future cashflows, and as always, estimations are uncertain and therefore risky. In this section we highlight the impact of Covid-19 and the actual company's capital structure, which we considered that could negatively impact AB InBev's intrinsic value.

- COVID-19

In 2020 the economy is under a lot of pressure with all the constraints due to COVID-19. The beer segment is deeply exposed to several demand-side risks and will be depressed in the short term.

In our valuation, we had in consideration all the restrictions forecasting the revenues and the operating margins in the affected regions, in 2020-2023. We considered that is very complex to understand a unique incident as a pandemic and that creates a risk that the economy can change rapidly and unexpectedly. We also believe that the pandemic can last much longer in markets with less access to the future vaccine, and that could define the worst scenario in those economies. We analyzed the possibility of COVID-19 having a longer impact, and its impact on AB InBev's share price. For that, we analyzed the share price deviation impacted by changes in the revenues forecast, if the consequences of the pandemic continued for more one year and in the worst scenario for two more, until 2023. The share price in the first scenario decreases around 5,5% and in the worst scenario is impacted by -11,1% compared to our share price estimation. With this scenario analysis we conclude that constraints due to the pandemic can easily have a huge impact in the company's value and for that reason we considered it to be a critical risk for investors.

- Debt

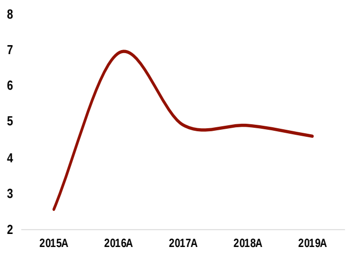

Figure 64 -AB InBev Net Debt/EBITDA. Source: Company's Report

AB InBev's net debt is $107,2 billion in 2020. A value that for the investors could be seen as lack of liquidity to pay dividends in the future. It generates some insecurity about whether the company would be able to meet their repayment debt commitments or not.

If we analyse AB InBev's debt, 95% of the debt holds a fixed-interests rate and 64% is in US dollars as in the rest is most euros and then a small part in other currencies.

The fact that debt holds fixed interests decrease a lot the risk of changes in the next interest payments, which decreases the possible risk for AB InBev's on their capacity to pay.

Regarding debt currencies, AB InBev is subject to currency fluctuations since its operations are overly dependent on emerging markets. An overall decrease of these currencies in relation to the US dollar would the make debt more expensive and, therefore, decreases AB InBev's ability to pay its debt.

The net debt to normalized EBITDA ratio was 4.86x and has its plan for the optimal capital structure to reach the 2x ratio.

AB InBev is proactively managing its debt portfolio and continues to announce that it will prioritize debt repayment. When analysing the risk of not being able to make that repayment we consider that as a low risk. Considering the strong cash flows generated by AB InBev the debt maturity can be seen as comfortable for the next commitments. According to AB InBev's 3Q report in June 2020, the company "had total liquidity of $34,1 billion, which consisted of $9.0 billion available under committed long-term credit facilities and $25.1 billion of cash, cash equivalents and short-term investments in debt securities less bank overdrafts". This means AB InBev in the last periods has solely relied on cash flows from operating activities to supply the continuing operations. We also forecasted the cash cover ratios of AB InBev in the next 4 years and realised that in all years the ratio will be well above one (FCF/ (interest + mandatory debt repayments)).

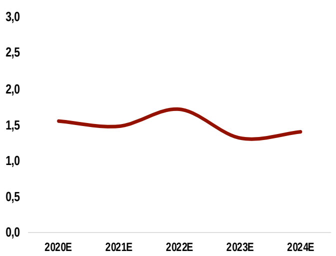

Figure 65 – AB InBev Cash Cover source: Company's report

In our opinion, AB InBev may face some difficulties in the event of being necessary additional funds for a strategic investment, for its future capital needs. Despite the strong cashflows that we already mentioned, AB InBev must be concerned about the possibility of needing the new funding, in which the terms could not be attractive and could lead to a worse financial position for the company.

All in all, we forecast that the company will not have problems with its mandatory debt repayments given its ability to generate cash and all the focus that it has been doing towards deleveraging. Not only we believe this risk is almost neglectable, but it could also help the management of the company to have more discipline in the ways it uses the company resources.

Valuation

Given AB InBev's current share price of $69,91 we believe that the stock is undervalued, and it is a great investment opportunity. From our intrinsic valuation, we got a share price of $105,79 considering our scenario analysis. Generating total 12-months returns of 55% with our valuation accounting for dividends.

APV & Capital Structure

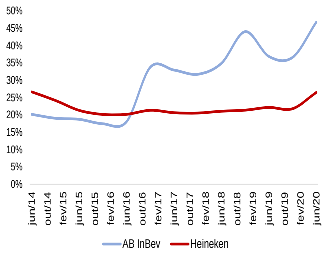

Figure 66 – D/EV AB InBev vs Heineken
Source: Companies reports

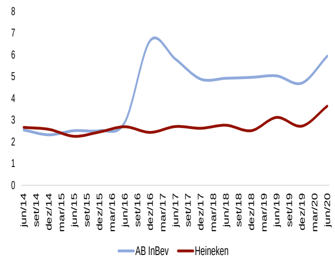

Figure 67 – D/EBITDA AB InBev vs Heineken
Source: Companies reports

We reached an intrinsic share price of $108,49 using the adjusted present value (APV) method. We believe this is the right method given the huge changes in AB InBev's capital structure. Since the acquisition, the company reached really high levels of net debt to enterprise value with an average of around 40% debt to enterprise value from 2016 to 2019. Given that before the acquisition the company used to have levels of 20% debt to enterprise value in line with its main competitor Heineken. AB InBev management mentioned in the 2019 annual report that they have the objective to have its net debt to EBITDA ratio equal to 2 (4,6 in 2019). From this statement and the continuous efforts towards deleveraging, we believe there will be some major capital structure changes in the following years. The company has been reducing its debt since 2016 from $115,5B to $96,8B in 2019 and we believe this trend will continue until it reaches a debt to enterprise value similar to what it used to have prior to this acquisition. For that reason, we predict that until 2027 the company will have a debt to enterprise value of 20% more in line with its peers and following their objective of having a net debt to EBITDA ratio of 2, they will keep deleveraging until 2030 with a Net Debt to EBITDA at around 2,2. Regarding the calculation of the share price using the APV, we had to estimate the following steps to have a reasonable discount rate for the company.

- Risk free

We had to estimate the risk-free so that we could use CAPM. We used the 10 years US treasury bond yield (0,93%) because we believe it to be the best proxy to the risk-free.

- Market risk premium

Regarding the market risk premium (MRP), we based ourselves on a KPMG paper that states that the MRP should range between 6,5% and 7%. Therefore, we will use 7% as the value for MRP given the higher returns investors ask due to the volatility in the markets nowadays.

- Cost of debt

YTM	1,56%
Comulative default prob	1,87%
Recovery Rate	53,9%
Loss Given Default	46,1%
Maturity	9
Default Prob Annualized	0,21%
Rd	**1,47%**

Figure 68 – rd calculations
Source: Bloomberg and own estimates

The cost of debt was estimated by subtracting the company probability of default times the loss given default from the yield of the company bonds. We analysed the company bonds and decided to take into consideration one with a long duration and that represents a good portion of the debt. The bond is senior unsecured with its maturity in 2029 and its outstanding amount is $ 4,25B. We used Bloomberg and the yield that the bond has is 1,56%. Also, its credit rating is Baa1 from Moody's, BBB+ from S&P, and BBBu from fitch. We used Moody's table to get the cumulative probability of default (1,87%) and divided it by the 9 years left to maturity to get the annualised default probability. From Moody's we also got the loss given default from senior unsecured bonds (46,1%). After this, we reached a cost of debt of 1,47% (rd=YTM-(Default prob annualized)x(Loss given default).

- Company risk

To calculate the company incremental risk and correlation with the market we estimated its expected beta. To do so we based ourselves on the movement of the stock in relation to the market and one of its peers.

After analysing AB InBev's peers we realized that the only peer to have similar geography diversity and size is Heineken. The other peers lack in both aspects so we do not think they would be a good comparable to the company operational risk. Although it is still not a perfect comparable, given that AB InBev is 3 times its size and its percentage of operations in emerging markets is far greater than Heineken (60% compared with 30%), we believe that it still is a good comparable. Therefore, to estimate our beta we run a regression using the companies' returns and the market returns (We used the S&P as we believe it is a fair proxy to the market). These regressions were made with weekly returns over the last 104 weeks (2 years). From that, we got both levered betas from each company. AB InBev with a levered beta of 1,55 and Heineken with a levered beta of 0,78. At first glance, it is a big difference given that the companies operate in the same industry. To better understand this difference, we unlevered both betas since Heineken capital structure is different. From that, we reached an unlevered beta of 1 for AB InBev and an unlevered beta of 0,65 for Heineken. The difference was smaller, but we still do not think the true unlevered beta for AB InBev to be so different from its main competitor.

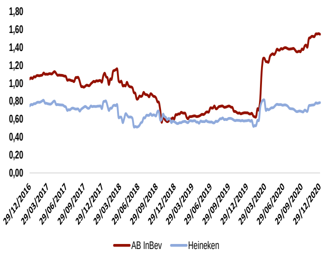

Figure 69 – Levered 104 weeks rolling betas from AB InBev and Heineken
Source: Bloomberg and own estimates

Next, to try to understand both companies' betas we did the 104 weeks rolling betas from 2017 to 2020 where we could see that AB InBev almost always had a higher levered beta, but the biggest difference happens after COVID-19 started (mid-March) when both companies beta increased, although AB InBev increased almost exponentially. We understand that part of this big increase was due to its huge amount of debt outstanding but after unlevering the betas we realized that debt did not explain the whole increase, and this is where we believe the market is overestimating the risk making the stock beta higher than what it should be. To confirm our view, we calculated the median of the 104 weeks rolling betas for each company and reached a value of 0,98 and 0,69 for AB InBev and Heineken, respectively. We can see that the difference is much smaller, and it is even smaller after unlevering these medians, where we got values of 0,64 and 0,57, respectively. For the reasons mentioned above we believe that the fair unlevered beta of the company should be the average of the unlevered betas of the last 104 weeks from both companies, which gave us a value of 0,82. We consider this is the right approach because we see no reason for the unlevered beta of AB InBev to be so much higher than Heineken (although we understand it is not the same due to higher exposure to emerging markets). After this, to get the unlevered discount rate we used CAPM to reach a value of 6,70% (ru=rf+bu*MRP) that is above the average of peers as we were expecting given that the company has a higher operational risk. This higher discount is mainly due to the fact that a big part of its operations occurs in countries with higher uncertainty. We will use this value to discount both the cash flows and the tax shields since we believe the tax shields will grow in line with the company.

- Growth

A company in the long term can generate growth from three different sources: portfolio momentum, market share performance and mergers, and acquisitions[6]. Regarding AB InBev's growth, we expect to be generated by portfolio momentum, based on organic revenue growth with the overall expansion in the market segments. AB InBev has segments in fast-growing markets such as Brazil, Mexico in the American segment and Vietnam and India for the Asia segment. We expect that AB InBev maintains its market share since we forecast that the in long term, markets will be more mature and saturated being very difficult to grow more than the market itself. Antitrust issues due to the volume of M&A activity in this market make it practically impossible to continue a strategy of accreditive M&A. Thus, we do not foresee any significant deal by AB InBev. We expected a final perpetual growth rate of 2,85% which we think to be a fair value of the growth for the beer market. We consider that almost all markets will tend to mature which will make the market growth to stabilized in line with the long-term nominal worldwide GDP growth.

- ROIC

ROIC	2019	2018	2017
AB InBev	7,3%	6,6%	7,1%
Boston Beer Company	17,6%	20,9%	22,7%
Constelation brands	9,1%	12,5%	10,7%

Figure 70 – ROIC comparison
Source: Bloomberg and own estimates

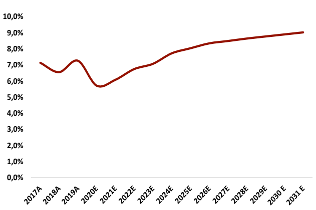

Figure 71 – Forecasted AB InBev ROIC
Source: Own estimates

AB InBev ROIC has been around 7% over the past years but we believe it will increase given its shift to more premium beer and craft beer. We did an analysis that includes AB InBev, Constellation Brands, and Boston Beer Company. Constellation Brands sells mainly premium beer like Corona and Boston Beer Company sells craft beer being the second largest craft brewery in the US. Due to the company focus on these segments we analysed these companies ROIC in the last 3 years. The first one had ROICs of 10,7%, 12,5%, and 9,1%, the second had ROICs of 22,7%, 20,9%, and 17,6% in 2017,2018 and 2019, respectively. We believe these companies to be good benchmarks for the ROIC in these two segments given that both are mainly focus on these products. The high-end segment (craft beer) of AB InBev already represents 10% of the revenues and we forecast it to double in the next following years. Regarding premium beer we also estimate the company to have a higher percentage of revenues coming from this segment although it is already bigger than the craft beer one. For these reasons we expect the company ROIC to increase from 7,3% in 2019 up to 9% in 2031 where we believe it will stabilize. This

[6] Koller, Tim; Goedhart, Marc; Wessels, David, 2015, Valuation: Measuring and Managing the Value of Companies, University Edition

increase will happen due to the higher percentage of revenues coming from these segments where ROIC is higher than the current AB InBev portfolio (premium segment average of 10,8% and craft with 20,4% over the last 3 years comparing with 7% of AB InBev). It is difficult for companies to maintain a ROIC above its cost of capital in the long run, but we believe that AB InBev has a sustainable competitive advantage. Its economies of scale (which could synergize with the craft beer segment), brand value and higher barriers to entry as the craft beer segment becomes more consolidated should be enough to maintain ROIC above its cost of capital.

- Enterprise value

After determining AB InBev's discount rate and perpetual growth, we can calculate the enterprise value of the company by discounting the future cash flows and interests tax shields using our unlevered discount rate (we use this rate to discount the company tax shields as we believe they will grow in line with the company). This led us to a core enterprise value of $324,9B ($308,5B from the free cash flows and $16,4B from the tax shields). To get the full enterprise value we add the value of non-operating assets to the core enterprise value. Since the non-operating assets consists in deferred taxes, investment securities, investments in associates, and joint ventures and employee benefits we decided to value these assets as book value since we believe it is a good proxy for their market value. After subtracting from the assets its liabilities, we got a non-operating assets value of $1,66B. Which then gave us an enterprise value of $326,6B.

- Equity value

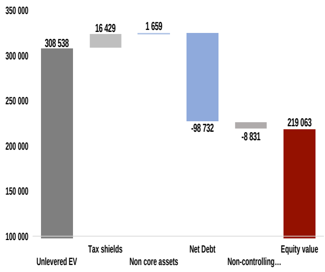

Figure 72 – EV to equity value of AB InBev.
Source: Own estimates

To know our target price, we subtract the company financial obligations and non-controlling interests to the company enterprise value to reach an equity market value of $219,1B. Resulting in a target share price of $108,49. This was done by dividing the company equity value by the undiluted outstanding shares (~2B). To consider the possibility to be overly dependent in our assumption we run a sensitivity analysis with different discount rates and perpetual growths to have a wider range of possible share prices. This gave us more confidence that the share price is undervalued since that only in the worst-case scenarios (higher discount rate and lower growth) with these 2 variables the company share price is below the one in the market.

		ru						
		5,41%	**5,84%**	**6,27%**	**6,70%**	**7,13%**	**7,56%**	**8,00%**
g	**1,35%**	118,12	101,55	87,90	76,45	66,72	58,33	51,04
	1,85%	135,15	114,78	98,40	84,93	73,66	64,10	55,88
	2,35%	157,75	131,81	111,57	95,35	82,06	70,97	61,56
	2,85%	189,20	154,53	128,61	108,49	92,42	79,29	68,36
	3,35%	235,94	186,38	151,47	125,54	105,52	89,59	76,62
	3,85%	312,74	234,27	183,79	148,58	122,61	102,67	86,86
	4,35%	462,28	314,36	232,95	181,41	145,84	119,81	99,92

Figure 73 – Sensitivity analysis between g and ru
Source: Own estimates

- Scenario analysis

To better analyse possible risks, we did a scenario analysis specific to the possibility that the COVID-19 pandemic takes longer to finish than expect. Mckinsey[7] did a study with the probability

[7] Charumilind, Sarun, 2020, "When will the COVID-19 pandemic end?", Mckinsey, Accessed 2 January, https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/when-will-the-covid-19-pandemic-end

	Probability	Price
Base case	60%	108,49
Postponed 1y	35%	102,50
Postponed 2y	5%	96,44
Expected	100%	105,79

Figure 74 – Scenario analysis
Source: Mckinsey and own estimates

of when will it be the pandemic ending in the US which we will assume as proxy given that is the most affected country (Although we know that developing countries will have less access to vaccination). They predict that the most likely scenario is that COVID will end in Q4 of 2021 with some probability of being in the Q2 of 2022 and with a very low probability in the Q3 of 2023. Given this we did a scenario analysis where expected revenues were postponed 1 year or 2 years (expected value of 2022 would be 2021 and so on). This would basically replicate a scenario where the world recovery would take 1 or 2 years longer than expected. We gave a probability of 60% to the 2021 scenario, 35% to the 2022 and 5% to the 2023. Which led us to an expected value of $105,79 per share.

- Comparables

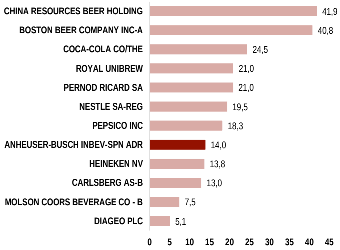

Figure 75 – EV/EBITDA of AB InBev and peers
Source: Bloomberg and own estimates

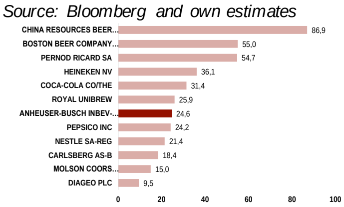

Figure 76 – EV/EBIT of AB InBev and peers
Source: Bloomberg and own estimates

We also did a comparable company analysis using three multiples (EV/EBITDA, EV/EBIT, and P/E) to understand if the company is undervalued in relation to the market. We will focus more on the first two since they are not affected by the company capital structure. In both metrics, AB InBev is valued at a discount in relation to the market (AB InBev EV/EBITDA is 14,0x compared to a market median of 18,87x and EV/EBIT is 24,6x compared to a market median of 25,3x). By taking the median of both metrics and then subtracting the company financial obligations and non-controlling interests we got to a share price of $119,46 for EV/EBITDA and $120,84 for EV/EBIT, which is even higher than our target price. This gave us even more confidence that the company is undervalued since from all the factors mentioned above (market leader, highest margins, etc.) we believe the company multiples should not be below the median of the market. We believe the company should be in line with the median or even above it since we consider it has some competitive advantage over its peers.

	1st Quartile			2nd Quartile			3rd Quartile		
	EV/EBITDA	EV/EBIT	P/E	EV/EBITDA	EV/EBIT	P/E	EV/EBITDA	EV/EBIT	P/E
Multiple	13,59x	20,64x	26,79x	18,87x	25,30x	27,82x	21,90x	40,79x	41,70x
EBITDA/EBIT/Earnings	18 482	13 899	7 516	18 482	13 899	7 516	18 482	13 899	7 516
EV	251 171	286 850	300 086	348 779	351 578	307 850	404 689	566 910	412 104
Net Debt	98 732	98 732	98 732	98 732	98 732	98 732	98 732	98 732	98 732
non-controling interests	8 831	8 831	8 831	8 831	8 831	8 831	8 831	8 831	8 831
Equity	143 607	179 286	201 354	241 216	244 015	209 118	297 126	459 347	313 372
# Shares Outstanding	2 019	2 019	2 019	2 019	2 019	2 019	2 019	2 019	2 019
Price Per Share	**71,12**	**88,79**	**99,72**	**119,46**	**120,84**	**103,56**	**147,15**	**227,48**	**155,19**

Figure 77 – AB InBev multiple valuation
Source Bloomberg and own estimates

Recommendation

Our recommendation is a strong buy in this company stock since we see a huge upside until the end of 2021 with an expected price of $105,79 resulting in a possible total return of 55% (from capital gains and dividends paid). The company share price has been declining since 2016 driven by a mix of debt exposure and flat volumes. The COVID-19 appeared at a very bad time for the company due to its huge debt issue to acquire SAB Miller.

Still, we believe the company can recover to its high values. We cannot forget that we are talking about a leading company in a market that is forecasted to grow at a ~7% CAGR from 2021-2025 and that AB InBev is present and almost always leader in the fastest-growing markets and segments. Also, the company has been proving to be able to reduce its net debt even in difficult times. Finally, with the check from our multiples valuation we can say with confidence that the company is undervalued in relation to its peers, which is not normal in a market leader company. Given these factors, we consider that the company will recover back to its best years and that its current valuation is much lower than what it should be.

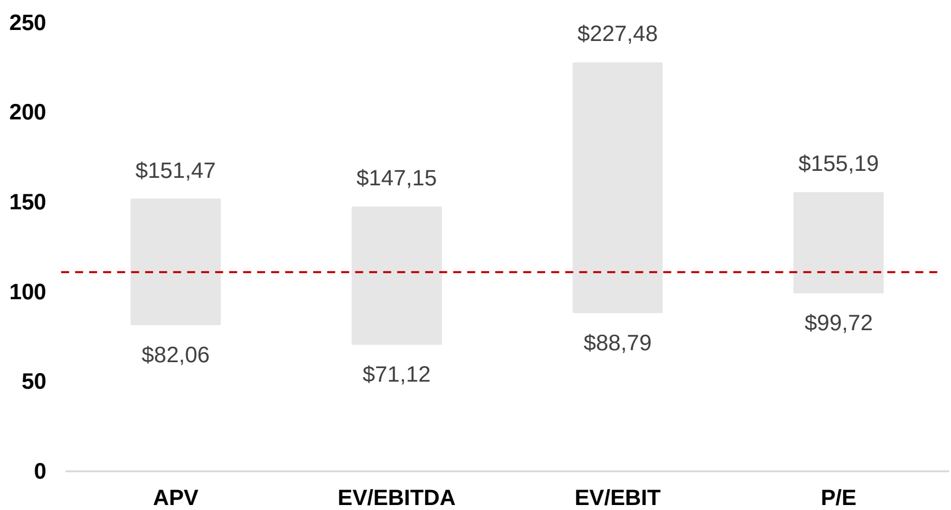

Figure 78 – Football field chart of AB InBev Valuation
Source: Own estimates